REMARKS

In the Office Action dated February 1, 2005, claims 1-4 were rejected under 35 U.S.C. 102(b) based on the Japanese publication 2000-214316, and claims 1, 3, 4 and 31 (original claim 32 renumbered) were rejected under 35 U.S.C. 102(e) on the basis of the Smith published application 2003/0063884.

The claims of the present application are directed to an optical terminator for dissipating power at the end of an optical fiber or waveguide. The terminator uses a scattering core that receives the optical energy to be dissipated and scatters that optical power out of the core into an absorbing layer that at least partially surrounds the scattering core. A thermal barrier is provided between the scattering core and the absorbing layer to maintain the core at temperatures which are below its damage or melting temperature.

In the Japanese Patent 2000-214316, the optical power comes from an external source through free air and is diffracted by a grating in an optical lead. The optical beam does not come from or travel in the optical lead, which serves as a grating and as a cylindrical lens together, refracting and diffracting the beam. As can be seen in Fig. 6 and the accompanying text in the Japanese Patent 2000-214316, the light impinging on the optical lead, containing the grating, **is not scattered but rather diffracted** to diffraction orders 1 and (-1) depicted as 11a and 11b, according to its wavelength. Scattering is wavelength independent, while diffraction is wavelength dependent.

Claim 1 of the present application is specifically directed to a terminator for absorbing optical energy "traveling in a fiber or waveguide," and requires a "scattering" core. Thus, claim 1 clearly distinguishes over the Japanese reference.

The Smith publication 2003/0063884 discloses high power lasers and amplifiers, heated by an external (pump) light that is absorbed in the core as light and turns into heat (calories) in the core. From the core, the heat is **conducted** away to heat sinks, thus requiring that the core be hotter than the heat sink, if it is to lead the generated heat out. Laser cores are by definition non-scattering since scattering is a disturbing phenomenon in lasers, and causes loss of laser energy. See Fig 13 in Smith.

Claim 1 of the present application specifically requires scattering of the optical energy received by the scattering core, which is fundamentally different from Smith's transfer of heat by conduction. Applicants' invention transfers energy by scattered light (photons), not by heat (calories) conduction as in Smith. Smith does not use a scattering core. In addition, claim 1 requires a "thermal barrier" between the scattering core and the surrounding absorbing layer, in contrast to Smith's heat sinks 112 that are touching (not insulated from) the waveguide. Thus, claim 1 clearly distinguishes over the Smith reference.

Claim 31 similarly requires a "scattering core" and an "optical absorbing layer" between the scattering core and the heat sink that energy radiated by the scattering core, and thus also clearly distinguishes over Smith.

Accordingly, claims 1 and 31 should both be allowable, along with the dependent claims 2-4 acted upon..

Because of the re-numbering of original claims 22-51 as claims 21-50, due to the omission of an original claim numbered 21, all the dependent claims in this group have been amended to recite the correct claim dependency.

Original claims 10-12 were added to the group of "withdrawn" claims, based on the allegation that the various core types recited in these claims are mentioned in connection with Figs. 2a and 2b on page 8 of the specification. However, the same language pointed to by the Examiner on page 8 also appears on page 7, lines 4-8, in the description of Figs. 1a and 1b. Thus, it is respectfully submitted that claims 10-12 are part of the elected species and should not be "withdrawn."

It is also respectfully submitted that the independent claims 1 and 31 are generic to claims 4-19 and renumbered claims 32-50, and thus all these claims should be allowed along with claims 1-4 and 31.

It is believed that no fee is presently due; however, should any additional fees be required (except for payment of the issue fee), the Commissioner is authorized to deduct the fees from Jenkens & Gilchrist, P.C. Deposit Account No. 10-0447, Order No. 55219-00010USPT.

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Respectfully submitted,

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